

CLAIMS

1. An air conditioner (1) comprising:

a heat source refrigerant circuit (12d) configured by the interconnection of a compression mechanism (21), a heat source heat exchanger (23), and a heat source expansion valve (24) that reduces the pressure of refrigerant condensed in the heat source heat exchanger when the heat source heat exchanger functions as a condenser;

one or more utilization refrigerant circuits (12a, 12b, 12c) connected to the heat source refrigerant circuit and configured by the interconnection of utilization heat exchangers (32, 42, 52) and utilization expansion valves (31, 41, 51);

a pressurizing circuit (111) that is disposed in the heat source refrigerant circuit and causes high-pressure gas refrigerant compressed in the compression mechanism to merge with refrigerant whose pressure is reduced in the heat source expansion valve and which is sent to the utilization refrigerant circuits; and

a cooler (121) for cooling the refrigerant whose pressure is reduced in the heat source expansion valve and which is sent to the utilization refrigerant circuits.

2. The air conditioner (1) of claim 1, wherein the pressurizing circuit (111) is connected between the heat source expansion valve (24) and the cooler (121) such that the high-pressure gas refrigerant merges.

3. The air conditioner (1) of claim 1 or 2, further comprising a cooling circuit (122) connected to the heat source refrigerant circuit such that some of the refrigerant sent from the heat source heat exchanger (23) to the utilization refrigerant circuits (12a, 12b, 12c) branches from the heat source refrigerant circuit (12d) and is introduced to the cooler (121), and the cooler (121) cools the refrigerant whose pressure is reduced in the heat source expansion valve (24) and which is sent to the utilization refrigerant circuits and thereafter returns the cooled refrigerant to an intake side of the compression mechanism (21).

4. The air conditioner (1) of any of claims 1 to 3, wherein

the heat source heat exchanger (23) can function as an evaporator configured such that the refrigerant flows in from below and flows out from above,

a combination of refrigerating machine oil and refrigerant that does not separate into two layers in a temperature range of 30°C or below is used, and

the air conditioner further comprises an oil returning circuit (101) that is connected to a lower portion of the heat source heat exchanger and returns the refrigerating machine oil accumulating inside the heat source heat exchanger to the compression mechanism (21) together with the refrigerant.